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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,760	01/13/2003	Tetsujiro Kondo	450101-03158	3056

7590 10/25/2006  
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EXAMINER

DURNFORD GESZVAIN, DILLON

ART UNIT	PAPER NUMBER
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2622

DATE MAILED: 10/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/009,760	KONDO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Dillon Durnford-Geszvain	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-4, 8-10, 13-16 and 19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8, 10, 13-16 and 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 January 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Amendment*

1. Claims 1-4, 8-10, 13-16 and 19 are pending, claims 2 and 15 have been amended and claims 5-7, 11, 12, 17, 18 and 20-38 have been ~~amended~~ <sup>canceled</sup>.

### *Response to Arguments*

2. Applicant's arguments filed 8/10/2006 have been fully considered but they are not persuasive.

The Examiner would like to draw the Applicant's attention to Column 1 lines 6-10 of Nakagakiuchi et al. which states "The present invention relates to a visual display system for displaying a video signal or image data in the form of a visible image, *and to an exposure control apparatus for a video camera or the like.*" The invention clearly is intended to be drawn to an exposure control apparatus similar to the apparatus in the present application.

It is the Examiner's understanding that the Applicant believes that the SLM of Nakagakiuchi et al. and the feature of the present invention are somehow completely different. The Examiner disagrees. The SLM controls exposure of the pixels individually, i.e. in pixel units, (see Column 11 lines 51-54) based on an evaluation result by the evaluating means 43 (see Figs. 13 and 15). The Examiner fails to understand how this makes the apparatus of Nakagakiuchi et al. "completely different" from the feature of the present invention as asserted by the Applicant.

The Examiner believes that Nakagakiuchi et al. does in fact teach controlling the

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exposure time of each pixel with the SLM. See Column 13 lines 7-26. It is clear that the SLM is controlled so as to provide less light and once it is at a certain value that value is stored in the memory as the final exposure value.

The objection to the drawings will be maintained. 37 CFR (p) 4 states "The same part of an invention appearing in more than one view of the drawing must always be designated by the same reference character, and *the same reference character must never be used to designate different parts.*" A DMD and a liquid crystal shutter are clearly different parts despite the fact that they are both referred to as a shutter. The Examiner suggests that the Applicant amend the drawings to identify the DMD shutter by numeral "2a" and the liquid crystal shutter with numeral "2b".

### ***Drawings***

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "2" has been used to designate both the DMD shutter of Figs. 2 and 11 and the liquid crystal shutter of Figs. 3 and 4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims **1-3, 13-16** and **19** are rejected under 35 U.S.C. 102(b) as being anticipated by 5,418,546 (Nakagakiuchi et al.).

As to claim **1**, Nakagakiuchi et al. teaches an image pick-up apparatus for picking up an image of object (see Fig. 13), the image pickup apparatus comprising: image pick-up means 39 (see Fig. 13) having a light receiving surface for receiving light from the object to carry out photo-electric conversion (this is inherent to CCDs), and adapted to output pixel value obtained as the result of the photo-electric conversion (this is also inherent); evaluating means 43 for evaluating the pixel value; and control means 45 for controlling, in pixel units (Column 14 lines 15-21), exposure time with respect to the light receiving surface on the basis of evaluation result by the evaluating means (Column 14 lines 15-21).

Claim **14** is a method that corresponds to the apparatus of claim **1** and is therefore rejected on the same grounds as claim **1** but drawn to a method instead of an apparatus.

Claims **15** and **16** are programs that correspond to the apparatus of claim **1** and are therefore rejected on the same grounds as claim **1** but drawn to a program instead

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of an apparatus.

As to claim 2, see the rejection of claim 1 and note that Nakagakiuchi et al. further teaches the image pick-up apparatus as set forth in claim 1, wherein the evaluating means evaluates whether or not the pixel value is value within a predetermined range (Fig. 18 and Column 13 lines 56-60); and wherein when the pixel value is not value within the predetermined range, the control means controls exposure time with respect to pixel of the light receiving surface corresponding to that pixel value so that the pixel value is caused to be value within the predetermined range (Column 14 lines 15-21).

As to claim 3, see the rejection of claim 2 and note that Nakagakiuchi et al. further teaches the image pick-up apparatus as set forth in claim 2, wherein the control means is operative so that when the pixel value is a predetermined value or more, it shortens exposure time with respect to pixel of the light receiving surface corresponding to that pixel value (Column 14 lines 3-21).

As to claim 13, see the rejection of claim 1 and note that Nakagakiuchi et al. further teaches the image pick-up apparatus as set forth in claim 1, which further comprises memory means 355 (see Fig. 19) for storing plural pixel values that the image pick-up means outputs and exposure times of pixels corresponding to the respective pixel values in such a manner to correspond to each other (Column 14 lines

3-14).

As to claim 19, Nakagakiuchi et al. teaches an image pick-up control apparatus (see Fig. 17) for controlling an image pick-up section (39 with 36, see Fig. 13) having a light receiving surface for receiving light from object and adapted to output pixel value obtained as the result of the photo-electric conversion, the image pick-up control apparatus comprising: an evaluating section 43 for evaluating the pixel value (Column 13 lines 56-60); and control means for outputting, to the image pick-up section, a control signal for controlling, in a predetermined surface unit, exposure time with respect to the light receiving surface on the basis of evaluation result by the evaluating section (Column 14 lines 15-21).

***Claim Rejections - 35 USC § 103***

6. Claim 4 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 5,418,546 (Nakagakiuchi et al.).

The Examiner believes that claim 4 could be interpreted in multiple ways. First, the pixels are all evaluated as a group to determine the average luminance of the pixels and if this average luminance is less than a predetermined value the exposure time is elongated for all pixels. Secondly, the pixels are evaluated individually and if the individual luminance is less than a predetermined value the exposure time for only that pixel is elongated.

In the first case, Nakagakiuchi et al. further teaches that if the value output by an

adder is less than a predetermined amount the exposure time of the imager is elongated relative to a "normal" exposure time (Column 14 lines 22-27). This would be a 102(b) rejection.

In the alternative case, Nakagakiuchi et al. teaches evaluating the pixel luminance individually and if the luminance is too high shortening the exposure time (Column 14 lines 3-21). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have also elongated the exposure time of individual pixels if the luminance of that pixel is low as this would improve the dynamic range of the image pick-up apparatus.

7. Claims **8** and **10** are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,418,546 (Nakagakiuchi et al.) in view of US 5,517,242 (Yamada et al.).

As to claim **8**, see the rejection of claim **1** and note that what Nakagakiuchi et al. does not teach is correcting means for correcting the pixel value based on the exposure time of the pixel. However, Yamada et al. teaches correcting means 3 (see Fig. 1) for correcting pixel values that the image pickup means 1 outputs on the basis of exposure time of the pixels (Column 7 lines 47-67).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the correcting means of Yamada et al. in the image pick-up apparatus of Nakagakiuchi et al. as this would increase the dynamic range (Column 8 lines 13-15 of Yamada et al.).



As to claim **10**, see the rejection of claim **8** and note that Yamada et al. teaches displaying the corrected image (Column 8 lines 35-37).

### ***Allowable Subject Matter***

8. Claim **9** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the cited prior art does not anticipate nor render obvious the claimed limitation of the precise equation (involving  $1/S_{\text{BASE}}$  and  $1/S$  where  $1/S_{\text{BASE}}$  corresponds to the longest exposure time and  $1/S$  corresponds to an exposure time and the pixel value is multiplied by  $S/S_{\text{BASE}}$ ) used by the Applicant for correcting the pixel value data.

### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

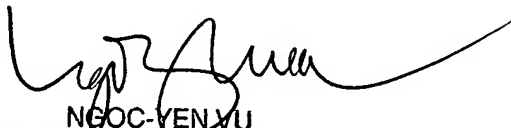
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dillon Durnford-Geszvain whose telephone number is (571) 272-2829. The examiner can normally be reached on Monday through Friday 8 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc-Yen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dillon Durnford-Geszvain

10/16/2006

  
NGOC-YEN VU  
SUPERVISORY PATENT EXAMINER